

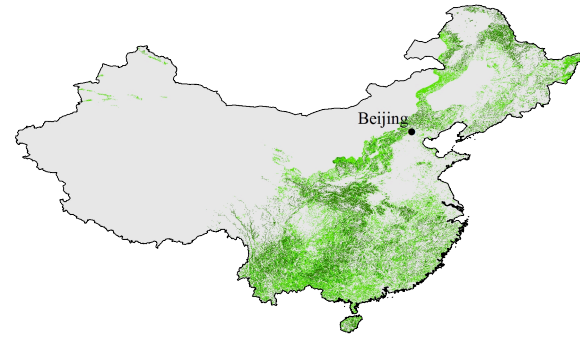


FOREST
LANDSCAPE
RESTORATION



Planning for Up-Scaled FLR in the Miyun Region

Improving Beijing's Water Security through Forest Landscape Restoration



The Challenge

China now faces an unprecedented water crisis: two thirds of its citizens currently rely on drinking water that does not meet national cleanliness standards; two out of three large cities suffer from periodic water shortages; and, of the biggest “megacities” across the country, all but two permanently lack adequate water supplies. The municipality of Beijing epitomizes the problem. In this modern capital roughly 21 million people now depend on water resources estimated to meet the needs of 12 million. Continuing droughts regularly drive drinking water levels below the UN’s absolute water scarcity threshold. “Beijing water shortage worse than the Middle East,” read one newspaper headline from the summer of 2013.

The Opportunity

Beijing draws the majority of its drinking water from the mountainous and forested Miyun region to its north. Forests are well known regulators of water quality and availability in such landscapes, with more trees often, though not always, leading to more and cleaner water “downstream”. Despite continued government effort to reverse the condition, the forests of Miyun are not healthy. Decades of degradative land use have left the hills of Miyun populated with trees that are mainly young, even-aged, and in “poor condition.” Analysis from IUCN and partners within the last few years found that three-quarters of tree stands in the region were “sub-healthy” or “unhealthy,” resulting in “limited capacity for soil, water and biodiversity conservation.” The water supplies of Beijing suffer as a result.

The good news is that the Miyun forests can be restored and, with them, Beijing’s dwindling water supply bolstered. Since 2007, IUCN and partners have worked to improve forest management in Miyun and, alongside it, increase understanding of the role that land uses there can play in regulating water dynamics across the region. Healthy trees and restored forest “function” across the landscape can serve as an important strategy for improving water supplies downstream. Now IUCN, in concert with multiple local partners, is determining how forest restoration in Miyun can be “up-scaled” quickly and effectively to respond to local needs and the needs of the world’s preeminent capital city.

The Project

Building on the success and lessons learned from IUCN’s 5-year “Landscapes and Livelihoods Strategy” project in the Miyun watershed, IUCN, the Beijing Forestry Society (BFS), and Forest Trends conducted a

Approach: Biophysical and socio-economic mapping; Participatory planning

Focus: Role of forest restoration to improve water supply & quality

Scale: Hebei Province and Beijing Municipality Watershed (Population 21+ million)

PARTNERS ENGAGED

- IUCN
- Beijing Forest Society
- Forest Trends
- National Academy of Sciences - China

EXPERTISE LEVERAGED

- Builds on learning from 5 year IUCN Livelihoods and Landscapes project in Miyun Region

KEY OUTCOMES

- Development of a framework and robust assessment process for identifying priority areas for watershed restoration in China.
- Watershed status and needs mapped (forest cover, water quality & quantity, land use, etc) for Beijing Watershed.
- 4 priority zones and 2 pilot sub-basins identified for restoration.
- Early engagement completed for a participatory planning process with diverse local watershed stakeholders and decision-makers.

NEXT STEPS

- Feed assessment process into a Pan-China assessment of Megacity water needs and watershed restoration opportunity.
- Participatory planning in Miyun region and early action on FLR implementation, capacity building and watershed stewardship.

detailed analysis of the Miyun watershed to identify how and where forest landscape restoration (FLR) can be implemented to improve water flows to Beijing and achieve related local benefits. Through a multi-stakeholder approach and planning process, a framework was developed to pave the way to protect and restore Beijing's watershed to help increase water supply to 21 million of people.

Stage 1: Analysis - In an initial mapping phase, 136 sub-basins in the greater Miyun watershed were assessed for their suitability for restoration and ability to deliver real benefits based on several key socio-economic and bio-physical factors. From this analysis, four sub-basins were identified as potential priority restoration areas and detailed follow-up surveys conducted over the course of a year. Finally, two high-priority sub-basins were selected as ideal sites for pilot "up-scaling FLR" projects based on their suitability for restoration, capacity to generate payments for ecosystem services (like water provision), and high conservation value.

Stage 2: Planning – No restoration in China can be successful without the support of the government and the enthusiasm of local communities. Once priority sub-basins were identified, local communities and government leaders were engaged in an FLR planning process in the region. Targeted reports on the watershed analysis were delivered to decision-makers and key stakeholders were engaged through workshops in each sub-basin. As a result of these activities, the methodology of the watershed analysis and the selection of the priority sub-basins were incorporated into Functional Zoning Initiatives by both local and central government agencies, paving the way for real restoration actions in the future. This work also contributed to related national initiatives, including the China Nature Valuation Initiative.

MOVING FORWARD

The work of the Miyun Up-Scaling FLR project will lead to several important actions to support China's response to a looming water crisis:

1. The analysis and engagement methodology refined in this project will be used to conduct a "Pan-China" megacity and watershed assessment. In this assessment, 30 to 50 of the largest cities in China will receive a "watershed land-use and restoration suitability" analysis designed to find the next regions where FLR can contribute to improved water quality and quantity in China's most water stressed regions.
2. Detailed action plans will be developed for each priority sub-basin in the Miyun region through "Participatory Land Use Planning" - and early restoration actions will be implemented, including tree plantings on ridge-lines, hill slopes, and riparian corridors. Capacity building of local communities for forest restoration and stewardship will also be supported through workshops on technical issues, watershed monitoring, and policy concerns.